

## What We Face

Thousand Cankers poses a serious threat to the health of black walnut trees. Walnut trees are important because they produce nuts and highly desired wood.

The Kansas Department of Agriculture, Kansas Forest Service and K-State Research and Extension need your help to educate clients to help stop the introduction, and to limit the spread, of this disease in Kansas.

We are deeply concerned that if the disease reaches the native range of black walnut in central and eastern Kansas, that we may lose this tree in both our urban and native forests.

Currently, the disease is known to exist in the nearby states of Colorado and New Mexico. Colorado scientists believe that the disease was brought into its urban areas by moving infected wood either as firewood or for woodworking.

Wood, bark and chips with beetles and cankers are highly contagious and should not be moved off of a site for at least three years.



**Do not bring walnut wood  
into Kansas  
from out-of-state sources!**

## When Collecting Samples

When collecting branch samples, be aware of high lines and other obstructions.

Wear safety glasses and a hard hat.

Use only equipment that is in good working condition.



*This one log from an alley in Denver is all it would take to start Thousand Canker disease in Kansas.*



**KANSAS**  
DEPARTMENT OF  
AGRICULTURE

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## Surveying and Sampling for Thousand Cankers Disease of Walnut



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## What to Look For in a Tree

Thousand Cankers disease of walnut is a progressive disease that kills a tree within two to three years after initial infection.

The disease causing fungus, *Geosmithia* sp., is transmitted by a small twig beetle. Branches and trunk tissue are killed by repeated infections by the fungus, as beetles carry the fungus into new bark cambium tissue, repeating the infection. That's why it is called Thousand Cankers disease.

Here are several key points to remember when surveying and sampling for Thousand Cankers. Dead trees require careful scrutiny of the localized area.

- Look for declining trees. Initial symptoms are yellowing and thinning followed by death in two to three years. This is early symptom development.
- Trees with dead leaves are highly suspect and an advanced symptom. Branches collapse in late spring and summer, and leaves die and remain attached to the branch. This flagging symptom is similar to Dutch Elm Disease.
- In Colorado, twig beetles are attracted to branches with southern and western exposure. Samples should come from this area of the tree, if possible.
- Collect a sample from branches 2 to 4 inches in diameter. Cut the branch down.

**Be safe!**

## What to Look For in a Branch

Take a strong bladed knife or drawknife, and cut or scrape away the bark. Now take the knife and carefully slice the tissue directly under the bark parallel to the surface, peeling away the layers. If dieback is caused by Thousand Cankers, you will see:

- Black cankers about the size of a dime or larger.
- Beetle galleries in the centers of the cankers.

You may also see:

- Beetles about the size of a pencil lead.
- A gray spot/mass in some beetle galleries. This is a fungus colony.
- Small beetle entry holes in the bark above the cankers. Photo courtesy of M. Kennelly, KSU.



## How to Verify the Cause

Collect and send a sample to verify Thousand Cankers. Take a sample of a branch with cankers that is about 2 feet long from two to four branches of the tree with a diameter of 2 to 4 inches. Trim excess branches and leaves, and double seal the sample in two large garbage bags. Box the sample with a description of where it was collected, including GPS data, and ship it to:

**Jon Appel**  
**Kansas Department of Agriculture**  
**1711 Westbank Way**  
**Manhattan, KS 66503**



*Black cankers that have coalesced on a branch 4 inches in diameter.*



*Look for leaves that died and remained attached to affected branches.*



*Beetle gallery in center of canker. Photo courtesy of Whitney Cranshaw, Colorado State University.*